

IN THE CLAIMS

1. (Currently Amended) Single-sidedly or double-sidedly pressure-sensitively adhesive, elastic adhesive sheet ~~which can be used more than once and is preferably in the form of diecuts or cut shapes, intended for the redetachment of adhesive bonds without residue or damage, particularly on low-strength substrates such as paper, for example, by peeling and/or extensive stretching of the adhesive sheet,~~

characterized in that

~~the adhesive sheet is composed of~~ comprising at least one layer of a pressure-sensitive adhesive, and having

~~the adhesive sheet has~~ a maximum stretchability of more than 200% and a recovery of more than 60% after stretching to 2/3 of its maximum elongation, and

the said pressure-sensitive adhesive (PSA) of ~~the adhesive sheet is~~ being based on a chemically crosslinked polyurethane, wherein the starting materials for the chemically crosslinked polyurethane ~~including~~ include at least one isocyanate-reactive substance having a functionality of more than 2.0, in a fraction an amount of at least 5% by weight, based on the weight of the polyurethane composition, ~~where~~ the molecular weight of at least one of the starting materials used to form the polyurethane is being greater than or equal to 1000,

at least difunctional polyisocyanates are being used to form the polyurethane, and

the ratio of maximum tensile stress to stripping stress is of said elastic adhesive sheet being more than 1.2, ~~preferably more than 1.5, more preferably more than 2.0,~~

and

the tensile stress at an elongation of 200% is being not more than 2.0 N/mm^2 , ~~preferably not more than 1.0 N/mm^2 , more preferably not more than 0.5 N/mm^2 .~~

2. (Currently Amended) Elastic adhesive sheet according to Claim 1, ~~characterized in that~~ wherein the polyurethane is ~~composed~~ formed of the following starting materials which are reacted with one another in the stated proportions:

at least one difunctional polyisocyanate,

a combination of at least one polypropylene glycol diol and at least one polypropylene glycol triol, the ratio of the number of hydroxyl groups in the diol component to the number of hydroxyl groups in the triol component being preferably between 0.7 and 9.0, ~~more preferably between 1.5 and 2.5,~~
of the number of isocyanate groups to the total number of hydroxyl groups being between 0.5 and 1.3, ~~preferably between 0.8 and 1.2, more preferably between 0.95 and 1.05,~~

where diols having a molecular weight of less than or equal to 1000 are combined with triols whose molecular weight is greater than 1000, ~~preferably greater than or equal to 3000,~~ or diols having a molecular weight of greater than 1000 are combined with triols whose molecular weight is less than 1000.

3. (Currently Amended) Elastic adhesive sheet according to Claim 1, wherein ~~or 2, characterized in that~~ the adhesive sheet has a maximum stretchability of more than 300%, ~~preferably more than 400%~~ and/or a recovery of more than 80%, ~~preferably more than 90%~~ after stretching to 2/3 of its maximum elongation.

4. (Currently Amended) Elastic adhesive sheet according to ~~at least one of Claims 1 to 3,~~ Claim 1, wherein the polyisocyanate is an aliphatic or

alicyclic diisocyanate, preferably an aliphatic or alicyclic diisocyanate having an asymmetrical molecular structure.

5. (Currently Amended) Elastic adhesive sheet according to Claim 1, wherein at least one of Claims 1 to 4, characterized in that the isocyanate is isophorone diisocyanate.

6. (Currently Amended) Elastic adhesive sheet according to Claim 1, wherein the at least one of Claims 1 to 4, characterized in that isocyanate-reactive substances used are polyols such as polyether polyols or polyester polyols.

7. (Currently Amended) Elastic adhesive sheet according to at least one of the preceding claims, characterized in that Claim 1, having a backing sheet has been applied to one side of the pressure-sensitive adhesive.

8. (Currently Amended) Elastic adhesive sheet according to at least one of the preceding claims, characterized in that Claim 1, wherein the elastic adhesive sheet is a two-ply or multi-ply laminate composed comprised of one or more elastic backing sheets and one or more layers of the polyurethane-based pressure-sensitive adhesive.

9. (Currently Amended) Elastic adhesive sheet according to at least one of the preceding claims, characterized in that Claim 1, wherein the adhesive sheet has been executed in is in a form which is partially non-tacky form at one or more ends

thereof , so that there are one or more grip tab regions starting from which the parting of the adhesive bond can be performed advantageously.

10. (Currently Amended) Elastic adhesive sheet according to ~~at least one of the preceding claims, characterized in that~~ Claim 1, wherein said pressure-sensitive adhesive comprises formulating constituents ~~such as~~ selected from the group consisting of catalysts, ageing inhibitors (~~antioxidants~~), light stabilizers, UV absorbers, and rheological additives ~~and other auxiliaries and additives have been mixed in.~~

11. (Currently Amended) Elastic adhesive sheet according to claim 1 ~~at least one of the preceding claims, characterized in that the adhesive sheet has~~ having a peel strengths (bond strengths) on steel, determined at a peel angle of 90°, of between 0.05 and 8 N/cm.

12. (Currently Amended) Elastic adhesive sheet according to ~~at least one of the preceding claims, characterized in that~~ Claim 1, wherein the stripping forces measured during detachment by extensive stretching in the bond plane are less than 2.5 N/mm².

13. (Currently Amended) Elastic adhesive sheet according to ~~at least one of the preceding claims, characterized in that it is~~ Claim 1, in the form of diecuts or cut shapes.

14. (Currently Amended) Process for producing a the pressure-sensitive adhesive sheet of claim 1, which comprises ~~according to at least one of the preceding claims,~~ where

a) charging a vessel A ~~is charged substantially~~ with the premixed isocyanate-reactive substances (polyol component) and charging a vessel B is ~~charged substantially~~ with the isocyanate component, ~~it being possible for the other formulating ingredients to have been mixed into these components beforehand in a standard mixing procedure,~~

b) conveying the polyol component and the isocyanate component ~~are conveyed via precision pumps through the~~ a mixing head or mixing tube of a multi-component mixing and metering unit, ~~where they are~~ and homogeneously mixed and ~~so brought to reaction, mixing same to bring about a reaction between them,~~

c) applying the chemically inter-reactive components mixed in this way ~~are applied immediately thereafter to a sheet-like~~ form backing material ~~which is preferably moving at a constant speed,~~

d) passing the backing material coated with the reactive polyurethane composition ~~is passed through a heating tunnel in which the polyurethane composition cures to~~ give form the pressure-sensitive adhesive,

e) finally, winding the coated backing material ~~is wound up in a winding station.~~

15. (Currently Amended) ~~Use of a pressure-sensitive adhesive sheet according to at least one of the preceding claims~~ A method for fastening notes, sheets of paper, calendar pages, strips, cards or cartons of paperboard, cardboard or plastic, small

utility articles of plastic, wood, glass, stone or metal, which comprises fastening same with the elastic adhesive sheet of Claim 1.

Please add the following:

16. (New) The elastic adhesive sheet according to Claim 4, wherein said aliphatic or alicyclic diisocyanate has an asymmetrical molecular structure.

17. (New) The elastic adhesive sheet of Claim 6, wherein said polyols are selected fro the group consisting of polyether-polyols or polyester-polyols.